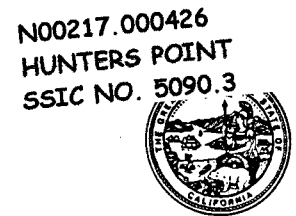




Department of Toxic Substances Control



Winston H. Hickox
Agency Secretary
California Environmental
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Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
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Gray Davis
Governor

April 10, 2001

Commanding Officer
Department of the Navy
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190
Attention: Richard Mach

GENERAL WORK PLAN, EXCAVATION OF IMPACTED SOIL AND CLOSURE OF ABANDONED STEAM AND FUEL PIPELINES, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

Dear Mr. Mach:

California Department of Toxic Substances Control has completed the review of General Work Plan, Excavation of Impacted soil and Closure of Abandoned Steam and Fuel Pipelines, Hunters Point Shipyard, San Francisco, California, Contract No. N62474-98-D-2076, Contract Task Order No. 0029, Document Control Number 1013, Revision 0 (Plan). The Plan, dated March 5, 2001, was prepared for the Department of the Navy, Southwest Division, Naval Facilities Engineering Command, Environmental Division (Navy) by IT Corporation (IT).

Comments made regarding one section of the plan (e.g., in the Work Plan) are not repeated in other sections (e.g., in the Field Sampling Plan (FSP)).

General Comments

1. General approach. The distinction is not clearly drawn between two study objectives: 1) determining whether a pipe is clean and 2) determining whether a pipe has released wastes to the environment, as discussed in the following comments.

1.1 Soluble threshold limit concentration (STLC) and toxicity characteristic leaching procedure (TCLP). A theoretical concentration derived from wipe samples (or a liquid sample from a pipe), when compared to the STLC or TCLP may be sufficient to demonstrate whether pipes in their

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.dtsc.ca.gov.

current condition need to be cleaned (and this point is also arguable, as noted below). However, it is not sufficient to indicate whether pipes have transported wastes at concentrations high enough to impact soil or groundwater.

The plan proposes that if theoretical concentrations or liquid concentrations do not exceed STLCs or TCLPs, no further work is required (i.e., no soil sampling, pressure testing, pipe removal, etc.). Whereas STLCs and TCLPs are relevant to disposal of wastes, the appropriateness of using STLCs and TCLPs to deduce whether soils have been impacted is not adequately supported. Moreover, a link between STLCs and TCLPs (concentrations in liquids) and removal action or ROD cleanup levels in soils (concentrations in solids) has not been established.

It seems more reasonable to use STLCs and TCLPs as criteria for disposal only, as this is the intended use of STLCs and TCLPs. Sampling frequency for disposal purposes (of pipe contents and cleaning fluids) is on a lower frequency than would be likely using the Navy's proposal, with some cost saving over the proposed approach. Wipe sampling to demonstrate that cleaning is adequate should be approached as a quality assurance/quality control (QA/QC) measure to demonstrate the general efficacy of the cleaning methods.

Soil sampling should be conducted at some regular interval along pipelines and at areas where release is indicated by pressure testing, field observations, and other site data.

1.2 Current/Historic Uses. The approach assumes that if a pipe is clean (enough) now, it has not historically impacted soil or groundwater. That is, if the following conditions apply, no further investigation is proposed: 1) theoretical leachate concentrations derived from wipe sample results are less than criteria (i.e., STLC/TCLP), or 2) pipeline liquid concentrations are less than criteria (i.e., STLC/TCLP).

These conditions are not sufficient to demonstrate that a pipe has not leaked historically. Moreover, the records are not complete regarding historic uses (e.g., during Triple A occupancy).

Analyses of wipe samples or existing liquids in pipes is not sufficient to prove that historical uses were similar to current conditions with regard to compounds and concentrations.

1.3 Pressure tests. The plan proposes that only pipes that fail the STLC/TCLP test will be pressure tested. To evaluate whether pipes have potential to leak, all pipes should be pressure-tested. A pipe that is currently empty may be more likely to have leaked than a pipe that still contains liquids.

1.4 Solids/sediment. Solids and sediments encountered in pipes should be evaluated. In order to determine appropriate waste handling/storage/disposal practices, all wastes need to be evaluated,

including solids/sediments in pipes.

1.5 Cleaning and soil sampling. Soil samples should be collected prior to pipe cleaning, since the cleaning process (steam scrubbing, flushing, detergent) may impact soil adjacent to pipes, resulting in low-biased samples.

1.6 Material in pipes. All materials in pipes should be removed.

1.7 Removed pipes. All removed pipes should be cleaned prior to storage as scrap.

1.8 Soil sampling. DTSC understands that it is the Navy's intent to focus soil sampling on areas that have a greater potential for release (e.g., adjacent to known leaks). DTSC agrees with this general concept. However, some regular soil sampling along pipelines may be required to demonstrate non-release.

1.9 Video cameras. Has the Navy considered using video cameras for examination of pipelines, in order to detect leaks and breaks?

2. Agreement with previous documents. This plan should reference existing basewide documents and state that activities will be in conformance with previously reviewed/approved documents (e.g., sampling and analysis plans (SAPs), Health and Safety Plans (H&SPs), and hazardous waste management plans (HWMPs)). Where this plan includes activities not previously covered by other documents, addenda to the basewide documents should be proposed.

For example, considerable time and effort was spent developing and reviewing Parcel C and D SAPs, and DTSC does not want to re-open those discussions, or to take the time to enumerate differences between the documents. For examples, please see FSP Comments 4, 6, 7, 8, 11, 12, Appendix C Comment 2, Addenda Comment 1, etc.

3. Standard Operating Procedures (SOPs). IT standard operating procedures (SOPs) are cited but are not included and have not been reviewed (although similar SOPs from Tetra Tech EM, Inc have been reviewed). The Navy should ascertain that SOPs of various consultants/contractors are conformable to the previously reviewed/approved documents. DTSC does not want to take the time to enumerate differences between SOPs for various Navy consultants/contractors.

As discussed previously, in lieu of attaching or referencing SOPs, DTSC recommends that relevant portions of SOPs be excerpted into documents. For this document, relevant portions of SOPs for activities not previously reviewed should be excerpted into the document.

4. Scope. The text should clarify whether this approach will be applied

to all steam and fuel pipelines, or to some designated subset of pipelines--based on previous sampling, historical records, site history, etc. If previous sampling or other factors are involved in the decision-making process, please include a description of how pipelines are included/excluded from consideration based on other information.

Work Plan (WP) Comments

1. Acronyms and Abbreviations. The Department of Toxic Substances Control (DTSC) is not included on this list. Also, please add STLC and TCLP to this list and other similar lists in this document.
2. Introduction, Section 1.2, page 1-1. The text says that the plan is applicable to all land-based parcels, but only part of Parcels A and B are shown on Figure 1. Please confirm that the Plan applies to Parcels A and B. In addition, please revise Figure 1 to include all of Parcels A and B.
3. Section 1.2: Site History. The text should note that some steam and fuel lines were known/suspected to be used for waste oil by Triple A.
4. New Figure(s). Please include figure(s) indicating the pipelines (and other excavations) addressed by this work plan. Pipelines which are known/suspected to have been used for waste oil should be indicated on the figures.
5. Section 1.4.1, last paragraph, page 1-3 (and elsewhere). Error. "TtEMI, 2001c" is cited in reference to Parcel C: however, "TtEMI, 2001c" relates to Parcel D. Please correct discrepancies throughout the document.
6. Section 1.4.3, page 1-3. This section incorporates by reference "IT 2000" (page 6-1): EFA-West RAC II Program Health and Safety Plan. Similarly, "IT, August 2000" (page 6-1): Standard Quality Procedures and Standard Operating Procedures [SOPs] Manual, Revision 2 contains SOPs for well construction/decommissioning, geophysics, decontamination, surveying, etc. The work plan is not complete if descriptions of actual procedures to be employed are not included. Similarly, procedures for trenching, excavation, cold-cutting, capping, pipe removal, etc. should be described in some detail. Please include relevant portions of the SOPs cited.

Error. In succeeding paragraphs (e.g., Sections 2.4.1., 2.4.2), TtEMI 2000 is cited instead of TtEMI August 2000: please correct as appropriate.
7. Section 2.4.5: Geotechnical Investigation. This section says that a

geotechnical evaluation will be conducted if sensitive structures (e.g., buildings, roads, utilities) may be impacted by excavation. In addition, please clarify whether geotechnical evaluations will generally be conducted to ensure the stability of excavations, and to determine whether shoring, etc. is required.

8. Section 3.1.4: Dust Control. What dust suppressants will be used? How will it be determined that dust suppressants (in lieu of water) are appropriate?

9. Section 3.1.6: Stormwater and Erosion Control. When will surface applied liner materials (e.g., sealer coats) be used? What are the compositions of these products (i.e., do they contain CERCLA compounds)?

10. Section 3.3: Stockpile Management (and HWMP Section 3.3). Please explain the statement that California hazardous wastes generated within an area of concern (AOC) can be combined with similar wastes generated from other excavations in other areas (whereas RCRA waste from each area will be segregated). Does this statement refer to California-only waste? If so, please describe how California-only waste is distinguished from RCRA waste. What is the citation that allows for California-only waste to be treated in a manner that is different from RCRA waste? Is this statement meant to apply to petroleum-contaminated wastes? Segregation of wastes from each area of concern is generally required.

11. Section 3.3, last sentence: "The stockpiles will remain at HPS until the Navy has determined the method and site for disposition, the licensed disposal facility has formally accepted materials, and hazardous waste manifests or bills of lading are signed". Although permits are not required, the substantive requirements of permits still apply. Time limits for storage of hazardous wastes are substantive, not procedural, requirements. Please include the time limits for temporary storage of hazardous wastes on site.

12. Section 3.4: Monitoring Well Construction and Abandonment. "CDW, 1991" is referenced in this section. In the References section, it is identified as "Draft California Well Standards, Bulletin 74-88, June 1991". Please note that Bulletin 74-88 is no longer a draft document (telephone call to DWR, April 3, 2001).

13. Section 3.6: Site Restoration.

13.1 What are the general specifications for backfill? For example, large particles may hinder compaction, so particle size distribution should be specified. Also, permeability should be specified.

13.2 A minimum of 90 % compaction is acceptable for general backfill. However, for areas adjacent to sensitive structures (e.g., buildings, roadways, utilities), 95 % compaction is recommended, for increased soil strength. Compaction of pavement aggregate base and asphalt is specified at 95 % (page 3-8), but the other sensitive structures are not specified at higher compaction. Areas (and depths) of higher compaction should be reported as such in the construction summary report.

13.3 What is the frequency of compaction testing? What laboratory will be used?

13.4 In excavations where groundwater is present, the plan proposes that the excavation will be backfilled with gravel to 6 inches above the water table. Has this procedure been used at previous excavations at the site? Even for large excavations? Presumably, backfilling with gravel is a less costly approach than using other backfill materials. However, there is a potential for creating preferential pathways using this approach. If rock is to be used as backfill, crushed rock is preferred over gravel--to ensure lower permeability and ease of compaction (i.e., it is well-graded and has finer particles).

13.5 To prevent creation of preferential pathways, long linear features should not be backfilled with permeable materials.

13.6 Error. Test method D-1557 is cited on page 3-8 but D-1157 is cited in References, page 6-1. Please correct, as appropriate.

13.7 Please include a copy of this revised ASTM reference (D-1557).

14. Section 4.1: Excavation, page 4.1, number 6 and Section 4.3: Confirmation Sampling, page 4-2. The use of discrete EnCore™ samples for volatile organic compound (VOC) analyses should be noted (for floor samples and for sidewall samples, if indicated by field observations). USEPA method 5035 should be specified for EnCore™ samples.

As previously agreed by the Navy (but not documented in the draft sampling analyses plan for Parcel C), all contaminants of potential concern (COPCs) will be retained as the excavation proceeds, and will be analyzed for in floor samples.

15. Section 5: Closure of Abandoned Steam and Fuel Lines. The introductory paragraph should note that some pipelines are known/suspected to be used for waste oil transport by Triple A.

16. Section 5.3: Pipeline Cleaning Procedures and Figure 2. Criticism of the proposed general approach is provided in General Comment 1. Some of the following comments may be moot if the general approach is revised.

16.1 Solids/sediments. Please include analyses of solids/sediments in the pipelines. That is, if wipe samples and fluid samples do not fail the test but

solids in pipelines exceed criteria, the pipe should be cleaned, etc. For example, at Alameda Naval Air Station, solids/sediments in pipelines had concentrations of metals significantly above hazardous waste levels. When solids analyses are performed, wipe sampling may not be required (unless field observations indicate otherwise--e.g., oily residues). Add sampling of solids/sediments in pipes to Figure 2. The presence of solids/sediments should be noted in field logs.

16.2 Removal of materials. All materials encountered in pipelines should be removed. For example, liquids (Or solids/sludges) that do not exceed STLCs and TCLPs may nonetheless impact soil and groundwater, and may be considered waste left in place with respect to records of decision (RODs) and Findings of Suitability to Transfer (FOSTs).

16.3 Sampling frequency, etc. Please discuss sampling frequency for wipe, liquid, and solid samples--and collection of QA/QC samples.

16.4 Soil Cleanup Goals. Step 6, last sentence: "If the samples indicate concentrations in excess of soil cleanup goals, go to Step 8." (Emphasis added.) However, "soil cleanup goals" have not been addressed previously in the document. Please explain how the theoretical liquid concentrations (calculated from wipe samples) or actual liquid concentrations (obtained from fluids analyses) pertain to "soil cleanup goals". Add this decision point to Figure 2.

Please note that "soil cleanup goals" have been established only for Parcel B, in the Record of Decision (ROD). Soil cleanup goals have not been established for other parcels. The plan should note this difference and state that "removal action cleanup criteria for soil" (not "soil cleanup goals") apply to all parcels except Parcel B. And, for the sake of clarification, "removal action goals for soil" should be distinguished from "removal action goals for pipeline closure" which pertain to wipe samples and fluid analyses. Here and elsewhere (e.g., FSP Section 3.1), please use the terms "removal action cleanup criteria for soil", "removal action cleanup criteria for pipeline closure", and "Parcel B ROD cleanup goals for soil", as appropriate. Please include tables listing various criteria for all analytes in the soil collection tables of the SAPs.

16.5 Step 6. Error. The text refers to Section 5.5: Buried Pipelines. However Section 5.5 does not relate to pipeline leachate. Is the citation incorrect? Should Section 5.8 be cited here?

16.6 Cleaning Prior to sampling. Step 10. Soil samples should be collected prior to cleaning pipes. Collection should be prior to cleaning so that soil samples are not impacted by the cleaning process, which includes pressure washing with steam, flushing, detergent, etc. If soil samples are collected after cleaning pipes (as proposed), soil directly adjacent to the pipes may be low-biased in concentrations. These low-biased samples may erroneously give the impression that soil has not been impacted, whereas

soil at some distance from the pipe, which has not been flushed, may in fact be contaminated. Adjust Figure 2 accordingly.

If the fieldwork described in this plan has already begun, and some pipes have already been cleaned prior to sample collection, it may be necessary to take additional samples at some distance from the pipeline to ascertain that a leaking pipeline has/has not impacted soil.

16.7 ACM. Step 17. ACM decisions should be added to the decision tree in Figure 2. Alternatively, include a figure for ACM decision-making. The extent of ACM pipe encountered should be summarized on a figure in the closeout report.

16.8 Cleaning of removed pipe. All pipes and ancillary equipment should be thoroughly cleaned either before or after removal, and prior to storing as scrap. Therefore, the decision rule to “clean or remove”, is not acceptable. Please adjust WP Figure 2 by changing “or remove pipe” to “and remove pipe, if appropriate”.

17. Section 5.3: Handling of Asbestos Containing Materials (ACM) (and H&SP Section 1.2.1). Explain why ACM disposal in a Class III landfill (non-hazardous landfill) is appropriate. Is it possible that some of the ACM will need to be disposed of as hazardous wastes?

For ACM materials left in place, a request to notice such materials will be made by DTSC during FOST review.

18. Section 5.6: Evidence of Release Within a Utilidor. What is the criteria for determining whether a utilidor is clean? Will wipe samples be collected in utilidors? Utilidors should not be presumed to be water-tight. If a pipe is known/suspected to have leaked, seams and breaks in the utilidor should be inspected.

19. Section 5.8: Cleanup Goals for Closure of Abandoned Steam and Fuel Pipelines.

Regarding wipe samples. What is the uncertainty associated with the calculation of theoretical concentrations from wipe sample results? What are detection limits (DLs) associated with wipe samples, and how do they impact (if at all) the calculations? How will DLs be evaluated? What will be the approach for multiple contaminants? Is the procedure proposed appropriate/accurate for all suspected contaminants (e.g., oily, soluble, metal)?

The recommended title is “removal action cleanup criteria for closure of steam and fuel pipelines”.

20. Procedures for removal of pipes and for cold cutting and capping of pipes should be described.

21. Section 6.0: References, page 6-1. Error. The Final Action Memorandum is listed twice--under Navy and under U.S. Navy.

Appendix A: Field Safety Plan (FSP)

1. Title page. Please add signature of U.S. Navy Quality Assurance officer.

2. Section 1: Introduction, third and fourth bullets. Typo. Delete "of".

3. Section 1.1: Objective, second bullet, page 1-3: "Whether petroleum hydrocarbons, waste oil, or other hazardous waste leaked from pipelines and impacted surrounding soil." As discussed in General Comment 1, the plan is not sufficient to achieve this objective.

Task 1, page 1-2. See WP Comment 16 re: "cleanup goals".

4. Section 3.1: Steam and Fuel Pipelines Sampling Process. Steps 4 and 5 (and elsewhere). Contract Laboratory Program (CLP) chemical analytical methods are cited in SAPs developed by Tetra Tech EM, Inc. However, different analyses are specified here. In SAPs, CLP methods were cited for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals. Please clarify whether CLP analyses cited in SAPs or the analyses cited in these documents will be used.

Will silica gel cleanup be used for all SVOC analyses of wipe samples and pipeline fluids?

5. General Comments and WP Comments on process and language (e.g., WP Comment 16) are not repeated here.

6. Section 3.2.1, page 3-4, says: "Contractors...are expected to comply with the intent and objectives of the procedures in the Parcel C FSP, but are expected to use their own internal equivalent procedures." Similar language is used in Sections 3.8: Groundwater Sampling and Analysis. Contractors are required to use the procedures as specified in SAPs.

The text (FSP Sections 3.2.1. and 3.8, and QAPP Section 3.1.1) notes that addenda to the plan will be provided for specific sites where assessment activities are to be performed. Addenda are subject to regulatory approval. The text should note that Addenda 1 and 2 are included in this document, and state what other addenda are anticipated (in addition to Addenda 1 and 2)?

7. Section 3.2.2: In-Situ Characterization. As noted in previous comments and meetings, DTSC considers in-situ waste profiling samples to be part of the site characterization data set, and compounds measured

above the removal action or Parcel B ROD soil cleanup criteria should be added as test analytes.

The locations of the soil samples collected for in-situ characterization should be noted in field logs and on figures in the construction report.

8. Regarding VOC sampling (Section 3.2.2, 3.3.1, 3.4, and elsewhere), the EnCore™ sampling device has been discussed and approved previously but not “similar devices”. What “similar devices” are being considered? Any other devices need to be reviewed and approved by regulatory agencies.

9. Section 3.3. Please include sampling frequency for wastes removed from pipelines.

10. Section 3.4, page 3-6, says: “At a minimum, the screening level soil samples will be analyzed for the COCs identified in the pipeline residual fluid or wipe samples. Before initiating sampling, the Navy will consult with the regulators to determine the appropriate laboratory testing required.”

The soils adjacent to pipeline breaks should be analyzed for all contaminants identified in the wipe samples and in the residual fluids, not just for those COCs that exceed the “pipeline closure criteria”. Compounds measured above removal action criteria for soil in waste profiling analyses should also be included as test analytes. And, if the pipeline crosses areas of other known contaminants (including petroleum hydrocarbons), those compounds should be included as well.

It is recommended that an analytical program be proposed for all soil samples to include: VOCs, SVOCs, polychlorinated biphenyls (PCBs), metals, petroleum corrective action plan (CAP) requirements, etc. Asbestos should be included--perhaps on a lesser frequency, when samples are collected adjacent to pipelines with ACM.

11. Section 3.5: Confirmation Soil Sampling and Analysis, page 3-6, says: “Previous laboratory results and field judgement will be used to determine which COCs the confirmation samples will be analyzed for.” This section relates to floor samples--and to additional sidewall samples collected due to field observations.

The Navy has agreed to analyze floor samples for all COPCs (i.e., test analytes) from each excavation. Please change text to reflect this agreement.

Please note that DTSC believes that test analytes should not be dropped as an excavation proceeds. Therefore, all test analytes should be retained for additional sidewall samples collected when field observations indicate potential contamination. And, as previously noted, waste profiling exceedences should be retained in subsequent sampling.

12. Section 4.0, page 4-2, first paragraph, last sentence. Change “may also be employed” to “will be employed for groundwater sampling”.

13. Sections 4.0., 4.1, et seq. Confirm that IT reporting limits (RLs), data packages, sample containers, preservation, and holding times, are identical to those already reviewed and approved in Tetra Tech SAPs.

SOPs 1.1, 2.1, 3.5 and 17.1 are cited here but are not included and have not been reviewed.

14. Section 4.2: Field Quality Control Samples. Please describe how background wipe samples will be used--e.g., in the decision-making process.

15. Section 5.0: Sampling Method Requirements. Please add solids/sediment sampling.

16. Section 5.4: Sample Numbering. The numbering scheme previously reviewed in the SAPS should be used.

17. Section 6.0: References. Clarify if the full title has been provided for TtEMI 2001c.

18. Figures

Figure 1. What laboratories will be performing chemical analyses?

Figure 2 has been discussed under WP comments.

Please note that there are no Figures 3 and 4.

19. Table 1

This table is fairly complete. However, in some cases, it is not consistent with documents previously reviewed. Please correct this table to be consistent with previous DTSC comments on SAPs. For example, for EnCore™ samplers (both VOC and total petroleum hydrocarbon-gasoline range (TPH-g) analyses): 48 hours to extraction, 12 days from extraction to analyses, add one 60-ml: glass jar for each two samplers, specify two EnCore™ samplers. Note that “high” or “low” concentrations should be specified since either 5 gm or 25 gm samplers will be required, depending on concentration.

Please note that EnCore™ sampling devices have been reviewed but other airtight coring devices (ACDs) have not been reviewed. Accordingly, please replace “ACD” with EnCore™.

Should hexavalent chromium be added to both soil and groundwater analyses? Asbestos analyses is not included.

Quality Assurance Project Plan (QAPP)

1. DTSC defers to USEPA. As for previous QAPPs at Hunters Point Shipyard, DTSC defers to United States Environmental Protection Agency's (USEPA's) quality assurance/quality control (QA/QC) team with respect to the detailed review of this document.

2. Section 3.3.2, bottom of page 3-5. Error? Should "for all *other* analyses" be changed to "for all analyses"? If not please explain what are/are not "other" analyses.

3. Section 6.1: Laboratory Qualifications. Please change "Department of Health Services" (DOHS) to "Department of Toxic Substances Control" (DTSC). Although formerly in DOHS, the State of California Hazardous Materials Laboratory (HML), which administers the Environmental Laboratory Accreditation Program (ELAP), has been in DTSC for several years now. Also, please include DTSC on the Abbreviations and Acronyms page.

Laboratories to be used for chemical analyses should be identified.

4. Figure 1: Data Quality Objectives

Steps 1 and 2. As discussed in General Comment 1, the plan is not sufficient to demonstrate whether historic releases have occurred.

Step 3. As noted in General Comment 2, please discuss how site history, previous investigations, and health and safety concerns will impact/inform the decision-making process.

Step 4. Vertical limits. 10 feet below ground surface (fbgs) is proposed as the vertical limit for both excavation and investigation in this plan.

Please note that excavation limits will be determined through the record of decision (ROD) process.

10 fbgs may generally suffice as an excavation limit for most human and ecological risk considerations, but it may not suffice for protection of groundwater for both CERCLA and petroleum releases. Is a ten foot limit for both excavation and investigation consistent with the petroleum corrective action plan? Investigation below ten fbgs may be required.

Step 4. Horizontal limits. The plan proposes that the horizontal limit corresponds to the extent of land-based parcels. That is, if contamination appears to extend into Parcel F, or into adjacent property, no further investigation will take place under this plan. However, a site is defined as the extent of contamination. Therefore, the rule should state that horizontal investigation and remediation will extend until the removal action/ROD cleanup goals are met.

Step 5. See WP Comments on general approach--e.g., adding solids/sediment analyses, sampling prior to cleaning, etc.

5. Tables 3 through 9. Thank you for including the practical quantitation limits (PQLs) for all target analytes of the methods. DTSC has been requesting that this information be included in SAPs for some time.

6. Figure 2: Chain of Custody Form.

Please include a copy of the back of the form, where footnotes related to the superscripts on the form are explained.

A space should be provided on this form for the laboratory to record temperature at time of receipt.

Appendix C: Site Health and Safety Plan (H&SP)

1. Addenda to basewide plans. This document should reference the basewide H&SP, which was previously reviewed and approved by DTSC. This document should state that it is in conformance with the previously reviewed and approved basewide H&SP and with any other H&SP addenda that apply. Any activities that are new to this document (e.g. asbestos abatement), which were not previously reviewed in the basewide H&SC should be explicitly called out for regulatory review, and presented as an addenda to the basewide H&SP.

The basewide H&SP should be included in the references section.

2. Please incorporate the following comments, if appropriate, in any H&SP addenda:

2.1 Section 1.1, page 1-1 (and Sections 1.2.2 and 1.2.2). The text should note that some pipelines are known/suspected to be used for waste oil transport by Triple A.

2.2 Section 1.2. Change "at locations identified in the General Work Plan" to "at locations identified in addenda to the General Work Plan".

2.3. Section 1.2.1, page 1-1, last sentence. Error. The Asbestos Abatement Plan is discussed in the future tense "will be prepared" but the plan is attached (i.e., it has already been prepared). Please correct sentence accordingly.

2.4. Section 1.2.1, last sentence: "Requirements for decontamination before scrapping [of the uninsulated pipes] will be provided in the Remedial Design [RD] documents." The uninsulated pipes removed during this process (i.e., pipes with no ACM) and other (insulated) pipes should be decontaminated "cleaned" as part of this plan. Delaying cleaning until the RD process is unacceptable. All pipes and ancillary equipment should be thoroughly decontaminated prior to storing as scrap.

This statement appears to be contradiction with the cleaning process for removed pipes discussed in the FSP, which implied that all removed pipes would be cleaned. Is this statement saying that some pipes (e.g., inactive steam lines) will be treated differently than other pipes (e.g., condensate return piping, pump return lines)? If so, different procedures for

different pipes should be explicitly described in the FSP.

2.5 Section 5.1. The Vice President of Health and Safety should be added to the QAPP and to FSP Figure 1, since the VP's approval is required for Level A (confined space) work.

2.6 H&S requirements/procedures for confined space work should be included.

2.7 Table 1. This table is incomplete. Please include maximum concentrations in soil of all chemicals. Please confirm that the maximum values that are included are correct. For example, the maximum value for polynuclear aromatic hydrocarbons (PAHs) is given as .99 mg/kg, and manganese maximum is given at 3,300 mg/kg: higher concentrations are likely. It is recommended that separate columns be provided for each parcel.

2.8 Table 2. This table is incomplete. Please provide missing information.

The column titled "Exposure Limits" should be titled "Exposure Limits/Target Organs" to be consistent with information given in the column. Alternatively, move target organs to the last column or create a new column. Also, exposure limits are summarized on Table 3 so including them on Table 2 is duplicative.

Please list target organs for compounds for which exposure limits have been determined (this information is missing from the table).

Error? Under n-nitroso-di-n-propylamine, should the phrase "see attached" be deleted? If not, what attachment is referred to?

2.9 Table 3. Please explain how the list of "identified health-significant site contaminants" was developed. For example, chromium and magnesium are on Table 2, but not Table 3. And ethylbenzene, toluene, and xylene are on Table 3 but not Table 2. Have all target analytes from SAPs and the Parcel B ROD explanation of significant differences (ESD 2000) been included on these tables?

2.10 Attachment 2. Asbestos Abatement Plan. Please identify laboratories to be used for asbestos analyses.

2.11 Attachment 6. Proposition 65 Notice. Proposition 65 notices require that the employer either 1) provide a Proposition 65 risk assessment or 2) conservatively notice all compounds that may be encountered at a work site. Since no Proposition 65 assessment of risks has been provided by IT, it is assumed that IT has taken the conservative second option to list all compounds that may possibly be encountered by its workers. If so, the list provided is not complete. For example, carcinogens detected on site which are not on the list include: other polynuclear aromatic hydrocarbons (PAHs), VOCs, residual (heavy) fuels, arsenic, hexavalent chromium, nickel, etc. And, various pesticides are listed as causing reproductive harm.

It is recommended that, as a conservative measure, all Proposition 65

compounds from the Parcel B ROD ESD be added to the Proposition 65 notice. Similarly, all Proposition 65 compounds that are target analytes in Parcel C and D SAPs should be added.

2.12 Attachment 6. Material Safety Data Sheets (MSDSs).

Arsenic and thallium. The MSDSs provided pertain to arsenic and thallium in nitric oxide (liquid, at 10,000 ug/ml). What are the industrial applications of these liquids?

Site workers are not likely to encounter arsenic and thallium in this form during the proposed investigations and excavations. Please include MSDSs for solid arsenic and thallium.

2.13 Attachment 8. Site Evacuation Map. Please include street names and written directions.

2.14 Attachment 9. Please include the name of the hospital on this map.

Hazardous Waste Management Plan (HWMP)

1. Addenda to basewide plans. This document should reference the basewide HWMP, which was previously reviewed and approved by DTSC. This document should state that it is in conformance with the previously reviewed and approved basewide HWMP and with any addenda to the HWMP. Any activities that are new to this document (e.g., asbestos abatement), which were not previously reviewed in the basewide HWMP should be explicitly called out for regulatory review, and presented as an addenda to the basewide HWMP.

The basewide HWMP should be included in the references section.

2. Please incorporate the following comments, if appropriate, in any HWMP addenda:

2.1 Section 2.5: Lead-based Paint (LBP). LBP is described as a possible waste in this section, but has not been previously mentioned in the document. Where is LBP expected to be encountered during this work?

2.2 Please include pipes removed and stored for scrap (including ACM pipes), and well installation wastes.

2.3 Please describe: storage locations for various wastes, labeling requirements, example labels/placards, limits on storage times, security measures, etc. Include a figure showing storage locations for various wastes.

2.4 Please include a reference to the existing basewide HWMP, and state that this document is supplemental to the basewide HWMP.

2.5 Disposal records should be included in the construction report. Maintenance of records should be discussed in the HWMP.

2.6 Please explain how wastes will be managed to control: wind dispersion, rain dispersion, off-gassing, odor and public nuisance.

Appendix E: Monitoring Well Design

1. Proposals for monitoring well designs on an individual well basis should be presented within the groundwater data gaps plans (GDGPs) and in remedial action monitoring plans (RAMPs), as appropriate.

2. Please incorporate the following comments, if appropriate, in any GWDGPs or RAMPS:

2.1 Well screen. The lengths of well screen proposed are: 1) for the A-Aquifer: from top of the Bay Mud to five feet above the water table, and 2) for the B-Aquifer: from the bottom of the Bay Mud to the serpentinite bedrock. The Navy should provide more support for the proposed "generic" well screen length. The proposed generic well screen lengths should be evaluated with respect to site stratigraphy (e.g., include various cross sections to show appropriateness of well screen lengths). Maximum ranges should be included, and an assessment of existing well designs.

The design for the length of well screen depends on site conditions and the study objectives. For example, long well screens may result in dilution if the aquifer is deep and contamination is confined to a narrow permeable zone. Another example--the presence of dense or light non-aqueous phase liquids (NAPLs) may impact well screen length

DTSC's guidance says that the screen length generally should not exceed ten feet. For water table wells, however, well screens should extend several feet above the highest water table: five feet above the water table is proposed, but five feet may not be achievable in areas where the water table is high.

2.2 Sealant. Well sealing material should be determined on a location-specific basis, depending on: whether the well is a water level well (or not), the salinity of the groundwater, potential for desiccation, etc. Both sealant and bentonite/grout mixes should be specified (e.g., percentage and type of cement/water/bentonite, Marsh funnel, etc.). Non-beneficiated bentonite should be used (where bentonite is appropriate). As noted in previous comments, "free-fall" emplacement of sealing materials and grout is not allowed: emplacement via a tremie pipe with the pipe opening several feet below the surface of the sealant is required.

2.3 Screen and pack size calculations should be described.

2.4 Well vaults. A figure illustrating the surface completion details should be included. Surface flush completion details may not be appropriate for all environments at the site (e.g., in the landfill area).

2.5 Figure. A figure showing proposed design of typical A-Aquifer and B-Aquifer wells should be included.

2.6 Please include surveying of wells.

2.7 Recording and reporting requirements should be summarized. Example well logs, boring logs, development logs, etc. should be included.

2.8 Well construction activities should be consistent with DTSC guidance documents: Monitoring Well Design and Construction for Hydrogeologic Characterization, August 1994.

Addenda

1. The SAPs should be included as references and discussed in the text.
2. The text of the FSP and QAPP (Sections 3.2.1. and 3.8, and QAPP Section 3.1.1) says that addenda will contain: deviations to procedures, site-specific data quality objectives (DQOs) and COCs, and planned analyses. However, Addenda 1 and 2 do not contain DQOs. DQOs from the SAPs should be included.

Please include the data collection tables from the SAPs. The data collection tables present the most complete summary of the proposed sampling and analysis activities, and are more pertinent to field activities than are COC tables. Moreover, DTSC reviewed and commented on the data collection tables (not the COC tables) of the SAPs, in order to avoid repeated discussions with the Navy on the definition of COCs.

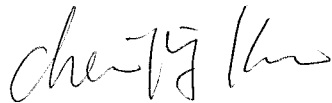
3. Table 1. Footnote 1 says that cleanup goals correspond to a cancer risk of 10^{-6} or a hazard index of 1. Please correct this statement to note that for some compounds (list the compounds, or indicate with a superscript), the cleanup goal has been set at the detection limit or at the Hunters Point Ambient Level (HPAL) which correspond to risks greater than 10^{-6} and greater than a hazard index of 1.

CAP requirements (for total petroleum hydrocarbons, etc.) should be included. After all, some activities are proposed for fuel line removals and investigations.

4. For the convenience of the reader, the tabs should say "Addenda 1" and "Addenda 2"

If you have any questions, Please contact me at (510) 540-3822.

Sincerely,



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